Abstract

Embodiment circuits provide a transistor body bias voltage so that the ratio of I_{ON} to I_{OFF} is constant over a range of temperature, where I_{ON} is a transistor current when ON and I_{OFF} is a (leakage) transistor current when OFF. In one embodiment, a nFET is biased to provide I_{ON} to a current mirror that sources a current AI_{ON} to a node, a nFET is biased to provide I_{OFF} to a current mirror that sinks a current BI_{OFF} from the node, and an amplifier provides feedback from the node to the body terminals of the nFETs so that at steady state $AI_{ON} = BI_{OFF}$, where A and B are constants independent over a range of temperature. In this way, the ratio I_{ON}/I_{OFF} is maintained at B/A for some range of temperatures. Other embodiments are described and claimed.